

REMARKS

Summary of the Final Office Action

In the Final Office Action dated April 2, 2004, claims 1-20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over allegedly Applicants' admitted prior art (AAPA) in view of U.S. Patent No. 6,297,862 to Murade.

Claim 21 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over the alleged AAPA and Murade as applied to claims 1-20 above, and further in view of US 6,266,117 to Yanagawa et al.

Summary of the Response to the Office Action

Applicants have amended claims 1, 5, 9, 11, 15, and 19 and canceled claims 4, 8, 10, 14, 18, and 20. Accordingly, claims 1-3, 5-7, 9, 11-13, 15-17, 19, and 21 are presently pending for consideration.

The Rejection under 35 U.S.C. 103(a)

Applicants respectfully traverse the 35 U.S.C. § 103 rejections of the claims, to the extent the Examiner may still consider these rejections to apply to amended claims 1-3, 5-7, 9, 11-13, 15-17, 19, and 21. Applicants respectfully submit that theses claims, as amended, are allowable because no *prima facie* case of obviousness has been established. As instructed by MPEP §2143, "[t]o establish a *prima facie* case of obviousness, ..., there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings." Applicants

respectfully submit that there is no showing of proper motivation or suggestion to modify or combine cited reference teachings.

Independent Claims 1, 5, 9, 11, 15, and 19 contain allowable subject matter.

Independent claims 1, 9, 11, and 19, as amended, each recite, among other features, the features of “a light-shielding member overlapping the switching device and extending from an end at the pixel electrode side of a metal thin film provided within the switching device into the pixel area, the light shielding member covering and extending past all sides of the metal thin film with a margin sufficient to block light incident on the metal thin film (Emphasis added),” or like features. Further, these amended claims recite the features of the metal thin film of the switching device being a drain electrode connected to the pixel electrode, or like features.

Independent claims 5, 9, 15, and 19, as amended, each recite, among other features, the features of “a light-shielding member overlapping the charging device and extending from an end at the pixel electrode side of the metal thin film into the pixel area with a margin sufficient to block light incident on the metal thin film (Emphasis added),” or like features. Further, these amended claims recite the features of the metal thin film being an upper electrode over the gate line and a dielectric layer, or like features.

At the outset, there should be no question that the alleged AAPA does not have the above-recited extension of the light shielding member that is sufficient to block light incident on the *metal* thin film, as recited in independent claims 1, 5, 9, 11, 15, and 19, as amended. To the extent the Advisory Action states otherwise on page 2, such assertion is hereby respectfully traversed. In FIGs. 2 and 3 of the instant application, the light shielding layer (black matrix) 11

does not even completely cover the drain electrode 7 and the upper electrode 15, respectively, let alone extending into the pixel region with a sufficient margin.

Thus, the alleged AAPA does not teach the above-recited extension of the light shielding member that is sufficient to block light incident on the *metal* thin film, as recited in independent claims 1, 5, 9, 11, 15, and 19. Therefore, in order for the rejection of the independent claims under 35 U.S.C. § 103 over the alleged AAPA in view of Murade to be proper, Murade must teach why the light shielding member of the alleged AAPA needs to be extended into the pixel area with a margin sufficient to block light incident on the *metal* thin film of the charging device or storage capacitor, as recited in amended independent claims 1, 5, 9, 11, 15, and 19. As instructed by MPEP §2143, “[t]o establish a *prima facie* case of obviousness, ..., there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings.” This Murade simply fails to do.

Charging device or storage capacitor

In embodiments 5 and 6 (col. 16, line 43-col. 17, line 53, as cited by the Examiner) of Murade, “the capacitance line 16 is made of a polysilicon film.” Murade, col. 16, line 54 and col. 17 line 25. As a result, the storage capacitor is formed with the capacitance line and the extension 1F from the semiconductor layer 1 below the capacitance line. Thus, there is no *metal* film in the storage capacitor disclosed in Murade. Then, Murade teaches that such a non-metallic capacitance line 16 (formed of a polysilicon film) must be shielded from light (col. 16,

lines 65-66; col. 17, lines 31-31), thereby necessitating the black matrix of the opposite substrate having a large area.

However, Murade does not provide any motivation or suggestion to cover the storage capacitor when the upper electrode of the storage capacitor is already made of metal. As described at col. 4, lines 43-51 in Murade, a metal film blocks light. Therefore, there is no need to further cover the storage capacitor when its upper electrode is already made of metal. Indeed, Murade actually suggests that when such a metal film is present, there is no need to have a light shielding layer. For example, col. 4, lines 43-51 of Murade reads:

According to the substrate for the liquid crystal device, the scan line is made at least of a metal film or a metal alloy film which makes it possible for the scan line to also act as a light shielding film. Because through this arrangement it is possible for the scan line as well as the data line to act as a light shielding film, placement of a black matrix on the opposite substrate can be safely omitted, by forming all the sides surrounding the pixel electrode so as to overlap with the data lines and the scan lines.

Similar descriptions are also found at col. 2, lines 6-9; col. 14, line 63-col. 15, line 5; col. 16, lines 33-38. Therefore, Applicants respectfully assert that Murade does not provide a proper motivation to modify the teaching of the alleged AAPA with respect to the charging device (or storage capacitor) to extend the light shielding member into the pixel area with a margin sufficient to block light incident on the metal upper electrode of the charging device or the storage capacitor, as recited in claims 5, 9, 15, and 19, as amended.

Switching device and thin film transistor

Applicants also respectfully assert that there is no proper motivation or suggestion in Murade with respect to the thin film transistor or switching device to modify the light shielding

member of the alleged AAPA to extend in a manner recited in claims 1, 9, 11, and 19. Nothing in Murade suggests that the metal drain electrode of the switching device or the thin film transistor should be covered by the light shielding layer with a sufficient margin, as recited in independent claims 1, 9, 11, and 19, as amended.

As pointed out by the Advisory Action at page 2, Murade uses the black matrix to prevent light from being incident to the *channel region* to minimize a leakage current. This is also confirmed by the very portion the Examiner recites in the Final Office Action—col. 1, lines 30-41 of Murade. According to Murade's teaching (in particular, in light of the above-recited portion of Murade), if there is some additional metallic structure that covers the channel region, then, no additional shielding of light by the black matrix would be needed. For example, this Murade's teaching would not lead one of ordinary skill in the art to extending the light shielding member 11 of FIG. 2 of the instant application in a manner depicted in FIG. 5 of the instant application. This is because the channel region of the transistor is already sufficiently covered by the light shielding layer 11 and because the drain electrode 7 is made of metal which blocks light (as described at col. 4, lines 43-51 in Murade, a metal film blocks light). Thus, Murade does not provide any suggestion or motivation to extend the light shielding member of the alleged AAPA into the pixel area with a margin sufficient to block light incident on the metal drain electrode of the switching device or the thin film transistor, as recited in claims 1, 9, 11, and 19.

Thus, because there is no proper motivation or suggestion to modify or combine the prior art teachings, the rejection of independent claims 1, 5, 9, 11, 15, and 19 is improper, and these claims are allowable.

Dependent claims 2-3, 6-7, 12-13, 16-17, and 21 contain allowable subject matter.

Dependent claims 2-3, 6-7, 12-13, 16-17, and 20 are allowable at least because of their respective dependencies upon allowable claims 1, 5, 9, 11, 15, and 19 and for the additional features they recite.

Conclusion

In view of the foregoing, Applicants respectfully request reconsideration of this application. Should the Examiner believe that anything further would be desirable to place this application into even better condition for allowance, the Examiner is invited to contact the Applicants' undersigned representative by telephone at (202) 739-5660.

EXCEPT for issue fees payable under 37 C.F.R. §1.18, the Commissioner is hereby authorized by this paper to charge any additional fees during the entire pendency of this application including fees due under 37 C.F.R. §§1.16 and 1.17 which may be required, including any required extension of time fees, or credit any overpayment to Deposit Account 50-0310. This paragraph is intended to be a **CONSTRUCTIVE PETITION FOR EXTENSION OF TIME** in accordance with 37 C.F.R. §1.136(a)(3).

Respectfully submitted

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